International Journal of
PARALLEL PROGRAMMING

Volume 15, Number 1 **February 1986**

CONTENTS

Important Announcement 1

Editorial: A Journal Transformed 3
Gary Lindstrom

A Case Study of Parallel Execution of a Rule-Based Expert System 5
Edward J. Krall and Patrick F. McGehearty

Modeling Concurrency with Partial Orders 33
Vaughan Pratt

Control and Data Driven Execution of Logic Programs: A Comparison 73
Simon Kasif

SANS PAREIL
How Are Parallel Systems Invented? 101
Parallax

International Journal of
PARALLEL PROGRAMMING

Volume 15, Number 2 **April 1986**

CONTENTS

Denotational Semantics of a Para-Functional Programming Language 103
Paul Hudak

Maximum Pipelining Linear Recurrence on Static Data Flow Computers 127
Gao Guang Rong

Parallel Microprogramming Tools for a Horizontally Reconfigurable Architecture 151
Donald M. Chiarulli and Duncan A. Buell

Experiments on Alternatives to Minimax 163
Dana Nau, Paul Purdom, and Chun-Hung Tzeng

SANS PAREIL
When Is Pull Better Than Push? 185
Parallax

International Journal of
PARALLEL PROGRAMMING

Volume 15, Number 3 June 1986

CONTENTS

OR-Parallel Execution of Prolog on a Multi-Sequential Machine 189
Khayri A. M. Ali

Primitives for Resource Management in a Demand-Driven Reduction Model 215
Bharat Jayaraman and Robert M. Keller

A Parallel Implementation of Flat Concurrent Prolog 245
Stephen Taylor, Shmuel Safra, and Ehud Shapiro

SANS PAREIL

The Bards on Parallel Programming 277
Parallax

International Journal of
PARALLEL PROGRAMMING

Volume 15, Number 4 August 1986

CONTENTS

Loop Skewing: The Wavefront Method Revisited 279
Michael Wolfe

The Butterfly Barrier 295
Eugene D. Brooks III

Solution of Sparse Positive Definite Systems on a Shared-Memory Multiprocessor 309
Alan George, Michael T. Heath, Joseph Liu, and Esmond Ng

An Optimal Distributed Solution to the Dining Philosophers Problem 327
S. P. Rana and D. K. Banerji

SANS PAREIL

Hotspotting 337

International Journal of
PARALLEL PROGRAMMING

Volume 15, Number 5 October 1986

CONTENTS

Global Garbage Collection for Distributed Heap Storage Systems 339
Khayri A. M. Ali and Seif Haridi

An Optimal Speed-up Parallel Algorithm for Triangulating Simplicial Point Sets in Space 389
Hossam ElGindy

An Optimal Parallel Algorithm for Triangulating a Set of Points in the Plane 399
Ed Merks

Pseudosimulation: An Algorithm for Distributed Simulation with Limited Memory 413
Bojan Grošelj and Carl Tropper

SANS PAREIL

The Church of the Least Fixed Point 457

International Journal of
PARALLEL PROGRAMMING

Volume 15, Number 6 **December 1986**

CONTENTS

An Assessment of Multilisp: Lessons from Experience 459
Robert H. Halstead, Jr.

Optimal Parallel Algorithms for Constructing and Maintaining a Balanced *m*-way Search Tree 503
Eliezer Dekel, Shietung Peng, and S. Sitharma Iyengar

Performance Analysis of a Scheme for Concurrency/Synchronization Using Queueing Network Models 529
Virgilio A. F. Almeida and Lawrence W. Dowdy

Systolic Architecture for *B*-spline Surfaces 551
Venkatramana G. Ajjanagadde and L. M. Patnaik

SANS PAREIL

Referees 567
Gary Lindstrom